What is claimed is:

1. An antibody which specifically binds to PSCA on the surface of carcinoma cells, and is internalized within the carcinoma cells to which it binds.

2. An antibody which specifically binds to PSCA on the surface of carcinoma cells, and is cytotoxic to the carcinoma cells to which it binds.

3. An antibody which specifically binds to PSCA on the surface of carcinoma cells, and is cytostatic to the carcinoma cells to which it binds.

4. An antibody which specifically binds PSCA on the cell surface of carcinoma cells, and is internalized and kills the carcinoma cells to which it reacts.

5. An antibody which specifically binds to PSCA on the surface of carcinoma cells, and is internalized and is cytostatic to the carcinoma cells to which it binds.

6. An antibody, comprising an antigen binding site, wherein the antigen binding site recognizes and binds the N terminal region of PSCA.

7. An antibody, comprising an antigen binding site, wherein the antigen binding site recognizes and binds the C terminal region of PSCA.

8. An antibody, comprising an antigen binding site, wherein the antigen binding site recognizes and binds the middle region of PSCA.

9. The antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8 which is a monoclonal antibody.

10. A monoclonal anti-idiotypic antibody reactive with an idiotype on the antibody of of claim 1, 2, 3, 4, 5, 6, 7 or 8.

11. A recombinant protein which is a murine/human chimeric antibody having (a) a variable region of the antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8 and (b) a constant region of human origin.

12. A polypeptide that binds PSCA comprising the antigen-binding region of the antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8.

13. A monoclonal antibody, the antigen-binding region of which competitively inhibits the immunospecific binding of the antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8 to its target antigen.

14. A bispecific antibody with a binding specificity for two different antigens, one of the antigens being that with which the antibody of claim 1, 2, 3, 4, 5, 6, 7, or 8 binds.

15. An Fab, F(ab')2 or Fv fragment of the antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8.

16. A single chain antibody molecule that binds PSCA comprising an antigen binding region of the antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8.

17. An immunoconjugate comprising the antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8 joined to a therapeutic agent.

18. An immunoconjugate comprising the recombinant protein of claim 11 joined to a therapeutic agent.

19. An immunoconjugate comprising the polypeptide of claim 12 joined to a therapeutic agent.

20. An immunoconjugate comprising the monoclonal antibody of claim 9 joined to a therapeutic agent.

21. An immunoconjugate comprising the bispecific antibody of claim 14 joined to a therapeutic agent

22. An immunoconjugate comprising the single chain antibody molecule of claim 16 joined to a therapeutic agent.

23. The immunoconjugate of any one of claims 17-22, wherein the therapeutic agent is a cytotoxic agent.

24. The immunoconjugate of claim 23, wherein the cytotoxic agent is selected from a group consisting of ricin, ricin A-chain, doxorubicin, daunorubicin, taxol, ethiduim bromide, mitomycin, etoposide, tenoposide, vincristine, vinblastine, colchicine, dihydroxy anthracin dione, actinomycin D, diphteria toxin, *Pseudomonas* exotoxin (PE) A, PE40, abrin, arbrin A chain, modeccin A chain, alpha-sarcin, gelonin, mitogellin, retstrictocin, phenomycin, enomycin, curicin, crotin, calicheamicin, sapaonaria officinalis inhibitor, maytansinoids, and glucocorticoidricin.

25. A pharmaceutical composition useful in killing human cells expressing the PSCA antigen on the cell surface, comprising a pharmaceutically effective amount of the antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8 and a pharmaceutically acceptable carrier.

26. A pharmaceutical composition useful in killing human cells expressing the PSCA antigen on the cell surface, comprising a pharmaceutically effective amount of the immunoconjugate of any one of the claims 17-22, and a pharmaceutically acceptable carrier.

27. A method for treating a subject suffering from a malignant disease characterized by cells having the PSCA antigen on the cell surface which comprises administering to the subject an effective amount of an immunoconjugate of any

one of the claims 17-22 such that the immunoconjugate binds the PSCA antigen and kills said cells thereby treating the subject.

28. A method for selectively killing tumor cells expressing PSCA comprising contacting said tumor cells with an amount of the antibody of claim 1, 2, 3, 4, 5, 6, 7 or 8 for a time sufficient to kill said cells.

29. A method for prolonging the life of a subject with a cancer associated with PSCA, comprising administering to the subject a monoclonal antibody which binds to PSCA in an amount effective so as to inhibit the cancer, thereby prolonging the life of the subject.

30. The method of claim 29, wherein said antibody is conjugated to a cytotoxic agent.

31. The method of claim 30, wherein said cytotoxic agent is selected from the group consisting of ricin, ricin A-chain, doxorubicin, daunorubicin, taxol, ethiduim bromide, mitomycin, etoposide, tenoposide, vincristine, vinblastine, colchicine, dihydroxy anthracin dione, actinomycin D, diphteria toxin, *Pseudomonas* exotoxin (PE) A, PE40, abrin, arbrin A chain, modeccin A chain, alpha-sarcin, gelonin, mitogellin, retstrictocin, phenomycin, enomycin, curicin, crotin, calicheamicin, sapaonaria officinalis inhibitor, maytansinoids, and glucocorticoidricin.

32. The method of claim 30, wherein said cytotoxic agent is a radioactive isotope.

33. The method of claim 32, wherein said radioactive isotope is selected from the group consisting of ^{212}Bi, ^{131}I, ^{131}In, ^{90}Y and ^{186}Re.

34. The method of claim 29, wherein said monoclonal antibody is not conjugated to a cytotoxic agent.

35. The method of claim 29, wherein the monoclonal antibody comprises murine antigen binding region residues and human antibody residues.

36. The method of claim 29, wherein the monoclonal antibody is a humanized antibody.

37. The method of claim 29, wherein the monoclonal antibody is a human antibody.

38. The method of claim 29, wherein the cancer is prostate cancer.

39. The method of claim 29, wherein the cancer is metastatic prostate cancer.

40. The method of claim 29, wherein the cancer is bladder cancer.

41. The method of claim 29, wherein the cancer is a metastatic bladder cancer.

42. The method of claim 29, wherein the cancer is a pancreatic cancer.

43. The method of claim 42, wherein the cancer is a metastatic pancreatic cancer.

44. The method of claim 29, further comprising administering to the patient a chemotherapeutic drug.

45. The method of claim 29, further comprising administering to the patient hormone ablation therapy.

46. The method of claim 29, further comprising administering to the patient hormone antagonist therapy.

47. The method of claim 29, further comprising administering radiation therapy to the patient.

48. A method of inhibiting the growth of cancer cells expressing PSCA, comprising administering to a patient a combination of monoclonal antibodies which bind to PSCA in an amount effective so as to inhibit growth of the cancer cells.

49. The method of claim 48, wherein the combination of monoclonal antibodies comprise monoclonal antibodies of at least two different isotypes.

50. The method of claim 48, wherein the combination of monoclonal antibodies comprise monoclonal antibodies with different epitope specificities.

51. The method of claim 48, wherein the combination of monoclonal antibodies comprises monoclonal antibodies 1G8, 2A2, 2H9, 3C5, 3E6, 3G3 and 4A10 produced by the hybridomas designated HB-12612, HB-12613, HB-12614, HB-12616, HB-12618, HB-12615, and HB-12617, respectively, as deposited with the American Type Culture Collection.

52. The method of claim 46, wherein the combination of monoclonal antibodies is selected from the group consisting of mAb 1G8, 2A2, 2H9, 3C5, 3E6, 3G3 and 4A10 produced by the hybridomas designated HB-12612, HB-12613, HB-12614, HB-12616, HB-12618, HB-12615, and HB-12617, respectively, as deposited with the American Type Culture Collection.